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AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Serial No. 09/735,930

Confirmation No. 5806

In re Application of:

On Appeal From:

Naomi NODA, et al.

Group Art Unit: 1754

Filed: December 14, 2000

Examiner: Stuart L. Hendrickson

For: CATALYST BODY

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REPLY BRIEF

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REPLY BRIEF

Pursuant to 37 CFR 41.141 appellants hereby file this Reply Brief to the Examiner's Answer mailed September 13, 2007.

Appellants' Claimed Catalyst Requires Both
An Alkali Metal And An Anchor Substance

Appellants' independent claim 12 expressly recites, inter alia, "(2)... (a) an alkali metal," and "(3) an anchor substance." Claim 12 also explains that the anchor substance "reacts predominantly with said alkali metal when compared with main components of the honeycomb carrier," "whereby" in the presence of both an alkali metal and an anchor substance "any reaction between main components of the carrier and said alkali metal is suppressed and deterioration of the carrier is suppressed." Thus appellants' claims expressly state that the claimed catalyst requires both an alkali metal and an anchor substance, and that the use of such an anchor substance in combination with a catalyst that includes an alkali metal causes the anchor substance to react predominantly with the alkali metal thereby suppressing reaction between main components of the carrier and the alkali metal, thus depressing deterioration of the carrier.

The Answer Admits That Chattha '295
"does not contemplate using an alkali metal."

While, as expressly stated in appellants' claim 12, as reviewed above, appellants' claims expressly require both an alkali metal and an anchor substance, the Examiner's Answer at page 3, lines 14-15 admits: "The reference [Chattha '295] differs in that it does not contemplate using alkali metal,...." Nowhere in Chattha '295 is any catalyst described that includes both an alkali metal and an anchor substance as claimed in appellants' claims here. Nevertheless, the

Examiner's Answer continues arguing that the reference "teaches this as an option – see cols. 1-2." [Answer, page 3, line 15] This statement is contrary to the statement in columns 1 and 2 of Chattha '295. It is only in the "BACKGROUND OF THE INVENTION" portion of Chattha '295, columns 1 and 2, that a 1994 European Patent application is cited [Chattha '295, col. 1, lines 47-53] as disclosing catalysts having combinations of materials including alkali metals. Chattha '295, column 2, line 1, also refers to alkali metal as typically utilized for NO_x sorption. Those references to conventional, prior art catalyst traps are in no way part of the "DISCLOSURE OF THE INVENTION" which commences at Chattha '295, col. 2, line 33.

Chattha '295 States: "Most fuels for automotive vehicles contain sulfur"

The Chattha '295 patent (which when filed was a sworn statement) at column 2, lines 4-6 expressly states that "Most fuels for automotive vehicles contain sulfur and when burnt, the sulfur is converted to sulfur compounds like SO₂." Chattha '295 goes on to state that the Chattha invention "comprises a precious metal along with tungstophosphoric acid." [Chattha '295, col. 2, lines 23-24]

Without citing any evidence therefor, the Examiner's Answer, at page 3, lines 15-19 states: "Using the promoter metal – while acknowledging the possible detriments thereof – is an obvious expedient as a tradeoff between performance and expense. Further, when the feed stream does not contain S, it is an obvious expedient to use alkali metal because there will be enhancement without the poisoning." And, the Examiner's Answer, at page 3, line 22 states "[R]efined gasoline contains so little sulfur, that the small amount of poisoning is offset by great NO_x removal and thus an obvious expedient to add alkali." We repeat that no evidentiary basis

for either of the above-quoted statements is cited in this record. The Examiner's Answer assumes, without citation to any evidence, that the above-quoted statement in Chattha '295, column 2, lines 4-6, is either untrue or de minimus. Mere examiner arguments in a PTO record, unsupported by evidence, are not entitled to evidentiary weight, especially when such statements are directly contrary to the disclosures of evidence in the record. Appellants' Brief on Appeal, page 7, expressly made the point that there was no such evidence in this record, and that fact remains accurate, even after the Examiner's Answer herein.

The unsupported assumptions by the PTO in this record are used as a premise upon which to assume that it would have been obvious to add an alkali metal to the precious metal-plus-tungstophosphoric acid catalyst disclosed and claimed in Chattha '295. But Chattha '295 neither discloses nor suggests that, and indeed does not use alkali metals in its catalysts. Furthermore, neither Chattha '295 nor anything else in this record in any way suggests that use of appellants' claimed anchor substance along with a catalyst that includes an alkali metal will have the desirable effect of suppressing degradation of a catalyst carrier supporting such a catalyst/anchor substance combination. See page 5-6, infra, of this Reply Brief.

The Answer Admits That Chattha '295
"found a way to make [alkali metals] unnecessary"

Appellants argue that Chattha '295 teaches away from the use of alkali metals in the precious metal/tungstophosphoric acid catalyst disclosed and claimed therein. The Examiner's Answer, page 4, lines 2 and 3, admits that Chattha '295 "found a way to make them [i.e. alkali metals] unnecessary," but goes on to argue disingenuously that "to make them unnecessary" is

not the same thing as teaching away. The Examiner's Answer protests too much. We again quote Chattha '295, column 2, lines 1-10 (emphasis added here):

The alkali metal and alkaline earth metals which are typically utilized for NO_x sorption have, however, the serious drawback that they are readily poisoned by sulfur in the exhaust gas. Most fuels for automotive vehicles contain sulfur and when burnt, the sulfur is converted to sulfur compounds like SO₂. Over time, the sulfur compounds react with these trap materials forming sulfates which will not revert back to the sorption material. These sulfates are inactive for NO_x sorption. As a result, the typical NO_x trap is strongly deactivated by sulfur in the fuel.

Not only did Chattha '295 find a way to make catalysts without alkali metals, as admitted in the Examiner's Answer, but Chattha '295 expressly explains why there is a serious drawback in the use of alkali metals and thus why they should not be used in such catalysts. "[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious." KSR International Co. v. Teleflex Inc., 550 U.S. _____, 127 S. Ct. 1727, 82 USPQ2d 1385, 1395 (2007), citing U.S. v. Adams, 383 U.S. 39, 51-52 (1966). Here, appellants invented a new and non-obvious, successful way of using alkali metals in such catalysts.

Nothing In The Answer Shows That The
Prior Art Recognizes That The Use of Appellants'
Claimed "Anchor Substance" With Alkali Metals
Suppresses Alkali Metal Deterioration Of Catalyst Carriers

The Examiner's Answer admits that Chattha '295 does not contemplate using an alkali metal in its disclosed and claimed precious metal/tungstophosphoric acid catalyst for exhaust gases. And the Examiner's Answer admits that Chattha '295 discloses a way to make such catalysts while making the use of alkali metals therein unnecessary. Chattha '295 is

unquestionably seeking to avoid the use of alkali metals in such catalysts. And contrary to the unsupported "obvious expedient" assumption in the Examiner's Answer, Chattha '295 and the Examiner's Answer completely fail to demonstrate that the prior art, or anyone of ordinary skill in the art, recognized that appellants' claimed "anchor substance" along with the claimed alkali metal, suppresses alkali metal deterioration of catalyst carriers using such catalysts. There is simply nothing in Chattha '295 or anything else in this record that discloses or suggests appellants' claimed invention or its attendant advantages.

Accordingly, for the all foregoing reasons, appellants respectfully request that the rejection of appellants' claims 12, 14 and 15 be reversed, and that those claims 12, 14 and 15 be allowed herein (along with previously allowed claims 16, 18-20, 22 and 23).

Respectfully submitted,



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